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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

THOMPSON, MELISSA

ART UNIT PAPER NUMBER

1745

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,210

Applicant(s)

CAMPBELL ET AL.

Examiner

Melissa B. Thompson

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it purports to the merits of the invention. It is also unclear what TEC50EA10 and TEC50BA10 are made of. They appear to be trademark names. These catalysts cannot be part of the applicant's invention since the specification does not disclose how to make these catalysts. Correction is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities:
In the specification it is unclear what TEC50EA10 and TEC50BA10 refer to.
Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as unpatentable over Binder et al (U.S. Patent Publication 2002/0037449 A1).

Binder et al. disclose a membrane electrode assembly with a polymer electrolyte membrane which has a first and second face which are both in contact with porous reaction layers and gas distributor layers, wherein the

reaction layers contain noble metal catalysts (paragraph 21). Binder et al. disclose a noble metal black support-free noble metal powder (paragraph 22) and that platinum may be used as the noble metal (paragraph 30). The reaction layer can be the cathode and/or anode catalyst layer (paragraph 24). The reaction layer contains a mixture of a noble metal supported catalyst and a noble metal black which is dispersed in a porous matrix of a proton-conduction ionomer (paragraphs 24, 32-37 and seen in Figure 2). Binder et al. also disclose that the proportion of noble metal black in the total noble metal content in the reaction layer is between 10 and 90% by weight and preferably between 40 and 90% by weight (paragraph 25). Binder et al. does not disclose that the catalyst layer comprises an admixture of 30-40% by weight Pt black and 60-70% by weight Pt supported catalyst, but does disclose values of the supported and unsupported catalysts in the table at the top of page 4. Ink C contains an admixture of both supported and unsupported catalyst, each making up 50% by weight of the mixture.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use 30-40% by weight unsupported catalyst and 60-70% by weight supported catalyst because claims that differ from the prior art only by slightly different (non-overlapping) ranges are prima facie obvious without a showing that the claimed range achieves unexpected results relative to the prior art. (*In re Woodruff*, 16 USPQ2d 1935,1937 (Fed. Cir. 1990)). Furthermore, Binder et al. disclose that the amount of unsupported Pt black can be varied

(paragraph 25). Thus, Binder et al. is clearly teaching that the concentration of supported and unsupported catalyst is a results effective variable. The courts have held that optimization of a results effective variable is not novel. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The mixture of supported and unsupported catalyst improves the utilization of the noble metal catalyst (paragraph 24).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa B. Thompson whose telephone number is (571) 272-2758. The examiner can normally be reached on 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Trainer, Susy Tsang-Foster can be reached on (571) 272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MBT

Susy Tsang-Foster
SUSYTSANG-FOSTER
PRIMARY EXAMINER